

**Amendments to the Claims:**

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) High-repetition mode-coupled ultra-short pulse laser system for generating femto- or picosecond pulses, according to the principle of pulse decoupling, comprising at least

- an amplifying laser medium-(11, 11')
- a laser resonator with at least one resonator mirror (~~6a-d, 7a-g, 8a-i, 16, 14, 14'~~) and at least one pulse decoupling component-(1, 1'),
- a saturable absorber mirror (~~14, 14'~~) and
- a pump source-(9, 9'), ~~in particular a laser diode source~~, for pumping the laser medium-(11, 11'),

~~characterized in that~~ wherein the pulse decoupling component (1, 1') is an electro-optical modulator.

2. (Currently Amended) Ultra-short pulse laser system according to Claim 1, ~~characterized in that~~ wherein the electro-optical modulator is a BBO cell.

3. (Currently Amended) Ultra-short pulse laser system according to Claim 1, ~~characterized in that~~ wherein the electro-optical modulator is an RTP cell, ~~in particular having a component for compensating a thermal drift.~~

4. (Currently Amended) Ultra-short pulse laser system according to Claim 1, ~~characterized by~~ further comprising at least one dispersive mirror (~~6a-d, 7a-g, 8a-i~~) for dispersion compensation, ~~in particular a Gires-Tournois interferometer.~~

5. (Currently Amended) Ultra-short pulse laser system according to Claim 4, ~~characterized in that~~ wherein the laser system is formed so that, in the generation of picosecond pulses, the nonlinear phase is less than 100 mrad, ~~in particular less than 10 mrad~~, the nonlinear phase being calculated per resonator cycle and per 1% modulation depth of the saturable absorber mirror.

6. (Currently Amended) Ultra-short pulse laser system according to Claim 1, ~~characterized in that~~ wherein the laser system is formed so that, in the generation of femtosecond pulses, the r parameter is less than 1, ~~in particular less than 0.25.~~

7. (Currently Amended) Ultra-short pulse laser system according to Claim 1 ~~characterized in that~~ wherein the laser medium (11, 11') is ytterbium-doped glass or Nd:YVO<sub>4</sub>.

8. (Currently Amended) Ultra-short pulse laser system according to Claim 1, ~~characterized in that~~ wherein the laser medium (11, 11') comprises ytterbium-doped tungstates, ~~in particular Yb:KGW or Yb:KYW.~~

9. (Currently Amended) Ultra-short pulse laser system according to Claim 1, ~~characterized in that~~ wherein the laser medium has a disc-like geometry.

10. (Currently Amended) Ultra-short pulse laser system according to Claim 1, ~~characterized in that~~ wherein the pump source is formed and is arranged in such a way that a pump light spot having a ratio of length to width of at least 2:1 is formed, the pump light spot consisting of a single ray or the combination of a plurality of rays, ~~the rays preferably being generated by laser diodes.~~

11. (Canceled)

12. (New) An Ultra-short pulse laser system according to Claim 1, wherein the pump source is a laser diode source.

13. (New) An Ultra-short pulse laser system according to Claim 3, wherein the RTP cell comprises a component for compensating a thermal drift.

14. (New) An Ultra-short pulse laser system according to Claim 4, wherein the at least one dispersive mirror for dispersion compensation is a Gires-Tournois interferometer.

15. (New) An Ultra-short pulse laser system according to Claim 5, wherein the nonlinear phase is less than 10 mrad.

16. (New) An Ultra-short pulse laser system according to Claim 6, wherein the r parameter is less than 0.25.

17. (New) An Ultra-short pulse laser system according to Claim 8, wherein the laser medium comprises Yb:KGW or Yb:KYW.

18. (New) An Ultra-short pulse laser system according to Claim 10, wherein the pump light spot consists of the combination of a plurality of rays, the rays being generated by laser diodes.

19. (New) A method of processing a material, comprising:  
    providing a material to be processed by plasma generation, and  
    processing the material using the high-repetition mode-coupled ultra-short pulse laser system according to Claim 1.